STANLEY®

AL35

HYDRAULIC ALTERNATOR

SAFETY, OPERATION AND MAINTENANCE USER MANUAL

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TABLE OF CONTENTS

SAFETY SYMBOLS 4
SAFETY PRECAUTIONS 5
TOOL STICKERS & TAGS 7
HOSE TYPES 8
HOSE RECOMMENDATIONS 9
  FIGURE 1. TYPICAL HOSE CONNECTIONS 9
HTMA REQUIREMENTS 10
OPERATION 11
  FIGURE 2. DIODE LOCATION 12
TOOL PROTECTION & CARE 13
TROUBLESHOOTING 14
SPECIFICATIONS 15
AL35 PARTS ILLUSTRATION 16
AL35 PARTS LIST 17
AL35 MOTOR PARTS ILLUSTRATION 18
AL35 WIRING DIAGRAM 19

IMPORTANT

To fill out a Product Warranty Recording form, and for information on your warranty, visit Stanleyhydraulic.com and select the Warranty tab.
(**NOTE:** The warranty recording form must be submitted to validate the warranty).

SERVICING THE STANLEY HYDRAULIC ALTERNATOR. This manual contains safety, operation, and routine maintenance instructions. Stanley Hydraulic Tools recommends that servicing of hydraulic tools, other than routine maintenance, must be performed by an authorized and certified dealer. Please read the following warning.

⚠ WARNING

SERIOUS INJURY OR DEATH COULD RESULT FROM THE IMPROPER REPAIR OR SERVICE OF THIS TOOL.

REPAIRS AND / OR SERVICE TO THIS TOOL MUST ONLY BE DONE BY AN AUTHORIZED AND CERTIFIED DEALER.

For the nearest authorized and certified dealer, call Stanley Hydraulic Tools at the number listed on the back of this manual and ask for a Customer Service Representative.

SAFETY SYMBOLS

Safety symbols and signal words, as shown below, are used to emphasize all operator, maintenance and repair actions which, if not strictly followed, could result in a life-threatening situation, bodily injury or damage to equipment.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER — This safety alert and signal word indicate an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING — This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION — This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION — This signal word indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTICE — This signal word indicates a situation which, if not avoided, will result in damage to the equipment.

IMPORTANT — This signal word indicates a situation which, if not avoided, may result in damage to the equipment.

Always observe safety symbols. They are included for your safety and for the protection of the tool.

LOCAL SAFETY REGULATIONS

Enter any local safety regulations here. Keep these instructions in an area accessible to the operator and maintenance personnel.

SAFETY PRECAUTIONS

Tool operators and maintenance personnel must always comply with the safety precautions given in this manual and on the stickers and tags attached to the tool and hose.

These safety precautions are given for your safety. Review them carefully before operating the tool and before performing general maintenance or repairs.

Supervising personnel should develop additional precautions relating to the specific work area and local safety regulations. If so, place the added precautions in the space provided in this manual.

The AL35 Hydraulic Alternator will provide safe and dependable service if operated in accordance with the instructions given in this manual. Read and understand this manual and any stickers and tags attached to the tool and hoses before operation. Failure to do so could result in personal injury or equipment damage.

- Operator must start in a work area without bystanders. Keep bystanders clear of your work area. The operator must be familiar with the work area such as excessive slopes and dangerous terrain conditions.
- Establish a training program for all operators to ensure safe operation.
- Do not operate the alternator unless thoroughly trained or under the supervision of an instructor.
- Always wear safety equipment such as goggles, ear and head protection, and safety shoes at all times when operating the alternator.
- Never use tools near energized transmission lines. Know the location of buried or covered services before starting your work.
- Do not overreach. Maintain proper footing and balance at all times.
- Do not inspect or clean the alternator while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
- Always connect hoses to the alternator hose couplers before energizing the hydraulic power source. Be sure all hose connections are tight.
- Do not operate the alternator at oil temperatures above 140 °F/60 °C. Operation at higher temperatures can cause higher than normal temperatures at the tool which can result in operator discomfort.
- Never transport or carry the alternator with the unit energized and connected to electrical loads.
- Do not operate a damaged, improperly adjusted, or incompletely assembled alternator.
- Observe local and national electrical codes for load wiring. To prevent electrical shock from faulty equipment, ground the alternator. If ground bonding is required, connect a length of heavy wire between the alternator ground terminal and the ground bond point.
- Exercise reasonable caution to prevent electrical shock; do not operate the alternator with wet hands.
- Do not operate the alternator in rain or snow. Do not let the alternator get thoroughly wet.
- Do not connect the alternator to a building circuit. This could cause damage to the alternator or to electrical equipment in the building.

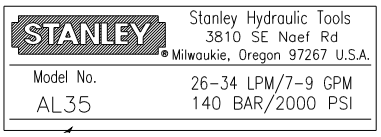
SAFETY PRECAUTIONS

- Do not start the alternator with electrical loads connected and in a power “ON” state.
- Ensure that the alternator is at operating speed/voltage before connecting an electrical load.
- Only use hydraulic hose labeled and certified as non-conductive when using hydraulic tools on or near electrical lines. Failure to do so may result in death or serious injury.
- Before using hose labeled and certified as non-conductive, be sure the hose is maintained as non-conductive. The hose should be regularly tested for electric current leakage in accordance with your safety department instructions.
- A hydraulic leak or burst may cause oil injection into the body or other severe personal injury.
- Do not exceed specified flow and pressure for the alternator. Excess flow or pressure may cause a leak or burst.
- Do not exceed the rated working pressure of hydraulic hose used with the alternator. Excess pressure may cause a leak or burst.
- Check alternator hose couplers and connectors daily for leaks. Do not feel for leaks with your hands. Contact with a leak may result in severe personal injury.
- Do not lift or carry the alternator by the hoses. Do not abuse the hoses. Do not use kinked, torn or damaged hydraulic hose.
- Make sure hydraulic hoses are properly connected to the alternator before pressuring the hydraulic system. The system pressure hose must always be connected to the alternator IN port. The system return hose must always be connected to the alternator OUT port. Reversing the connections may cause reverse tool operation which can result in severe personal injury.
- Do not connect open-center hydraulic tools to closed-center hydraulic systems. This may result in loss of other hydraulic functions powered by the same system and/or may cause severe personal injury. **The AL35 alternator is an open-center hydraulic tool**.
- To avoid personal injury or equipment damage all tool repair maintenance and service must only be performed by authorized and properly trained personnel.

TOOL STICKERS & TAGS

CAUTION
7-9 GPM / 26-34 LPM
DO NOT EXCEED 2000 PSI / 140 BAR
DO NOT EXCEED SPECIFIED FLOW OR PRESSURE
USE CLOSED-CENTER TOOL ON CLOSED-CENTER SYSTEM. USE OPEN-CENTER TOOL ON OPEN-CENTER SYSTEM. CORRECTLY CONNECT HOSES TO TOOL "IN" AND "OUT" PORTS. IMPROPER HANDLING, USE OR OTHER MAINTENANCE OF TOOL COULD RESULT IN A LEAK, BURST OR OTHER TOOL FAILURE. CONTACT AT A LEAK OR BURST CAN CAUSE OIL INJECTION INTO THE BODY. FAILURE TO OBSERVE THESE PRECAUTIONS CAN RESULT IN SERIOUS PERSONAL INJURY.

03763
GPM Sticker



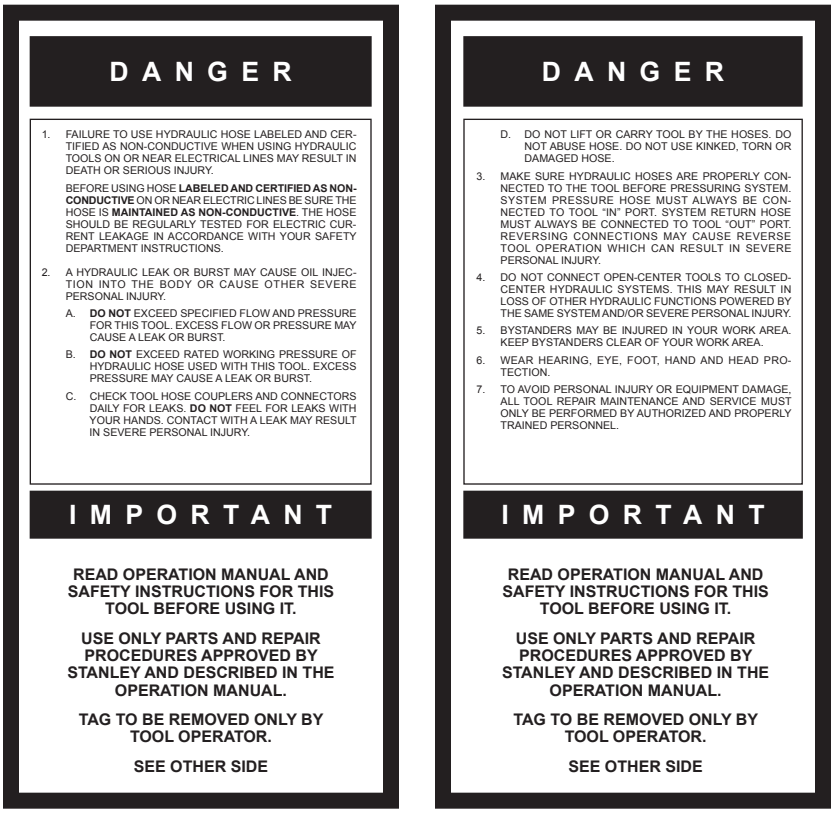
12735
AL35 Name Tag

NOTE:

THE INFORMATION LISTED ON THE STICKERS SHOWN, MUST BE LEGIBLE AT ALL TIMES.

REPLACE DECALS IF THEY BECOME WORN OR DAMAGED. REPLACEMENTS ARE AVAILABLE FROM YOUR LOCAL STANLEY DISTRIBUTOR.

The safety tag (P/N 15875) at right is attached to the tool when shipped from the factory. Read and understand the safety instructions listed on this tag before removal. We suggest you retain this tag and attach it to the tool when not in use.


DANGER
1. FAILURE TO USE HYDRAULIC HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE WHEN USING HYDRAULIC TOOLS ON OR NEAR ELECTRICAL LINES MAY RESULT IN DEATH OR SERIOUS INJURY.
BEFORE USING HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE ON OR NEAR ELECTRIC LINES BE SURE THE HOSE IS MAINTAINED AS NON-CONDUCTIVE. THE HOSE SHOULD BE REGULARLY TESTED FOR ELECTRIC CURRENT LEAKAGE IN ACCORDANCE WITH YOUR SAFETY DEPARTMENT INSTRUCTIONS.
2. A HYDRAULIC LEAK OR BURST MAY CAUSE OIL INJECTION INTO THE BODY OR CAUSE OTHER SEVERE PERSONAL INJURY.
A. DO NOT EXCEED SPECIFIED FLOW AND PRESSURE FOR THIS TOOL. EXCESS FLOW OR PRESSURE MAY CAUSE A LEAK OR BURST.
B. DO NOT EXCEED RATED WORKING PRESSURE OF HYDRAULIC HOSE USED WITH THIS TOOL. EXCESS PRESSURE MAY CAUSE A LEAK OR BURST.
C. CHECK TOOL HOSE COUPLERS AND CONNECTORS DAILY FOR LEAKS. DO NOT FEEL FOR LEAKS WITH YOUR HANDS. CONTACT WITH A LEAK MAY RESULT IN SEVERE PERSONAL INJURY.
IMPORTANT
READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.
USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE OPERATION MANUAL.
TAG TO BE REMOVED ONLY BY TOOL OPERATOR.
SEE OTHER SIDE
DANGER
D. DO NOT LIFT OR CARRY TOOL BY THE HOSES. DO NOT ABUSE HOSE. DO NOT USE KINKED, TORN OR DAMAGED HOSE.
3. MAKE SURE HYDRAULIC HOSES ARE PROPERLY CONNECTED TO THE TOOL BEFORE PRESSURING SYSTEM. SYSTEM PRESSURE HOSE MUST ALWAYS BE CONNECTED TO TOOL "IN" PORT. SYSTEM RETURN HOSE MUST ALWAYS BE CONNECTED TO TOOL "OUT" PORT. REVERSING CONNECTIONS MAY CAUSE REVERSE TOOL OPERATION WHICH CAN RESULT IN SEVERE PERSONAL INJURY.
4. DO NOT CONNECT OPEN-CENTER TOOLS TO CLOSED-CENTER HYDRAULIC SYSTEMS. THIS MAY RESULT IN LOSS OF OTHER HYDRAULIC FUNCTIONS POWERED BY THE SAME SYSTEM AND/OR SEVERE PERSONAL INJURY.
5. BYSTANDERS MAY BE INJURED IN YOUR WORK AREA. KEEP BYSTANDERS CLEAR OF YOUR WORK AREA.
6. WEAR HEARING, EYE, FOOT, HAND AND HEAD PROTECTION.
7. TO AVOID PERSONAL INJURY OR EQUIPMENT DAMAGE, ALL TOOL REPAIR MAINTENANCE AND SERVICE MUST ONLY BE PERFORMED BY AUTHORIZED AND PROPERLY TRAINED PERSONNEL.
IMPORTANT
READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.
USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE OPERATION MANUAL.
TAG TO BE REMOVED ONLY BY TOOL OPERATOR.
SEE OTHER SIDE

SAFETY TAG P/N 15875 (Shown smaller then actual size)

HOSE TYPES

The rated working pressure of the hydraulic hose must be equal to or higher than the relief valve setting on the hydraulic system. There are three types of hydraulic hose that meet this requirement and are authorized for use with Stanley Hydraulic Tools. They are:

Certified non-conductive — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. *Hose labeled **certified non-conductive** is the only hose authorized for use near electrical conductors.*

Wire-braided (conductive) — constructed of synthetic rubber inner tube, single or double wire braid reinforcement, and weather resistant synthetic rubber cover. *This hose is **conductive** and must never be used near electrical conductors.*

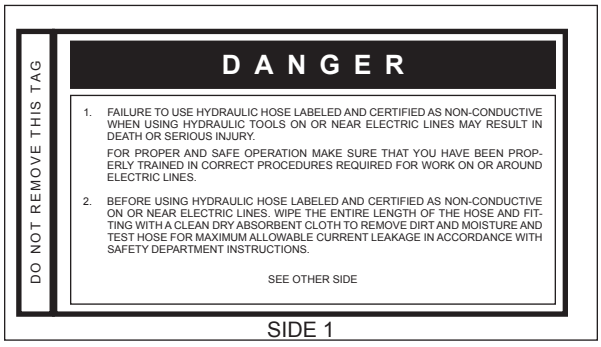
Fabric-braided (not certified or labeled non-conductive) — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. *This hose is **not certified non-conductive** and must never be used near electrical conductors.*

HOSE SAFETY TAGS

To help ensure your safety, the following DANGER tags are attached to all hose purchased from Stanley Hydraulic Tools. DO NOT REMOVE THESE TAGS.

If the information on a tag is illegible because of wear or damage, replace the tag immediately. A new tag may be obtained from your Stanley Distributor.

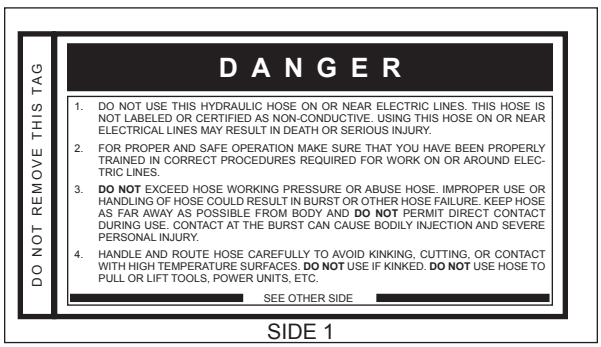
THE TAG SHOWN BELOW IS ATTACHED TO "CERTIFIED NON-CONDUCTIVE" HOSE

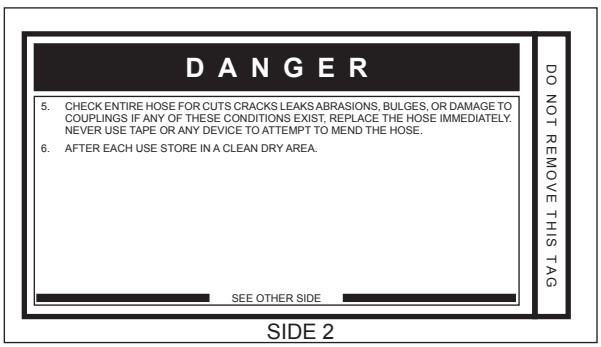

DO NOT REMOVE THIS TAG
D A N G E R
1. FAILURE TO USE HYDRAULIC HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE WHEN USING HYDRAULIC TOOLS ON OR NEAR ELECTRIC LINES MAY RESULT IN DEATH OR SERIOUS INJURY.
FOR PROPER AND SAFE OPERATION MAKE SURE THAT YOU HAVE BEEN PROPERLY TRAINED IN CORRECT PROCEDURES REQUIRED FOR WORK ON OR AROUND ELECTRIC LINES.
2. BEFORE USING HYDRAULIC HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE ON OR NEAR ELECTRIC LINES. WIPE THE ENTIRE LENGTH OF THE HOSE AND FITTING WITH A CLEAN DRY ABSORBENT CLOTH TO REMOVE DIRT AND MOISTURE AND TEST HOSE FOR MAXIMUM ALLOWABLE CURRENT LEAKAGE IN ACCORDANCE WITH SAFETY DEPARTMENT INSTRUCTIONS.
SEE OTHER SIDE
SIDE 1

D A N G E R
3. DO NOT EXCEED HOSE WORKING PRESSURE OR ABUSE HOSE. IMPROPER USE OR HANDLING OF HOSE COULD RESULT IN BURST OR OTHER HOSE FAILURE. KEEP HOSE AS FAR AWAY AS POSSIBLE FROM BODY AND DO NOT PERMIT DIRECT CONTACT DURING USE. CONTACT AT THE BURST CAN CAUSE BODILY INJECTION AND SEVERE PERSONAL INJURY.
4. HANDLE AND ROUTE HOSE CAREFULLY TO AVOID KINKING, ABRASION, CUTTING, OR CONTACT WITH HIGH TEMPERATURE SURFACES. DO NOT USE IF KINKED. DO NOT USE HOSE TO PULL OR LIFT TOOLS, POWER UNITS, ETC.
5. CHECK ENTIRE HOSE FOR CUTS CRACKS LEAKS ABRASIONS, BULGES, OR DAMAGE TO COUPLINGS IF ANY OF THESE CONDITIONS EXIST, REPLACE THE HOSE IMMEDIATELY. NEVER USE TAPE OR ANY DEVICE TO ATTEMPT TO MEND THE HOSE.
6. AFTER EACH USE STORE IN A CLEAN DRY AREA.
SEE OTHER SIDE
DO NOT REMOVE THIS TAG
SIDE 2

(Shown smaller than actual size)

THE TAG SHOWN BELOW IS ATTACHED TO "CONDUCTIVE" HOSE.


DO NOT REMOVE THIS TAG
D A N G E R
1. DO NOT USE THIS HYDRAULIC HOSE ON OR NEAR ELECTRIC LINES. THIS HOSE IS NOT LABELED OR CERTIFIED AS NON-CONDUCTIVE. USING THIS HOSE ON OR NEAR ELECTRICAL LINES MAY RESULT IN DEATH OR SERIOUS INJURY.
2. FOR PROPER AND SAFE OPERATION MAKE SURE THAT YOU HAVE BEEN PROPERLY TRAINED IN CORRECT PROCEDURES REQUIRED FOR WORK ON OR AROUND ELECTRIC LINES.
3. DO NOT EXCEED HOSE WORKING PRESSURE OR ABUSE HOSE. IMPROPER USE OR HANDLING OF HOSE COULD RESULT IN BURST OR OTHER HOSE FAILURE. KEEP HOSE AS FAR AWAY AS POSSIBLE FROM BODY AND DO NOT PERMIT DIRECT CONTACT DURING USE. CONTACT AT THE BURST CAN CAUSE BODILY INJECTION AND SEVERE PERSONAL INJURY.
4. HANDLE AND ROUTE HOSE CAREFULLY TO AVOID KINKING, CUTTING, OR CONTACT WITH HIGH TEMPERATURE SURFACES. DO NOT USE IF KINKED. DO NOT USE HOSE TO PULL OR LIFT TOOLS, POWER UNITS, ETC.
SEE OTHER SIDE
SIDE 1


D A N G E R
5. CHECK ENTIRE HOSE FOR CUTS CRACKS LEAKS ABRASIONS, BULGES, OR DAMAGE TO COUPLINGS IF ANY OF THESE CONDITIONS EXIST, REPLACE THE HOSE IMMEDIATELY. NEVER USE TAPE OR ANY DEVICE TO ATTEMPT TO MEND THE HOSE.
6. AFTER EACH USE STORE IN A CLEAN DRY AREA.
SEE OTHER SIDE
DO NOT REMOVE THIS TAG
SIDE 2

(Shown smaller than actual size)

Tool to Hydraulic Circuit Hose Recommendations

The chart to the right shows recommended minimum hose diameters for various hose lengths based on gallons per minute (gpm)/ liters per minute (lpm). These recommendations are intended to keep return line pressure (back pressure) to a minimum acceptable level to ensure maximum tool performance.

This chart is intended to be used for hydraulic tool applications only based on Stanley Hydraulic Tools tool operating requirements and should not be used for any other applications.

All hydraulic hose must have at least a rated minimum working pressure equal to the maximum hydraulic system relief valve setting.

All hydraulic hose must meet or exceed specifications as set forth by SAE J517.

Oil Flow		Hose Lengths		Inside Diameter		USE	Min. Working Pressure	
GPM	LPM	FEET	METERS	INCH	MM	(Press/Return)	PSI	BAR
Certified Non-Conductive Hose - Fiber Braid - for Utility Bucket Trucks								
4-9	15-34	up to 10	up to 3	3/8	10	Both	2250	155
Conductive Hose - Wire Braid or Fiber Braid -DO NOT USE NEAR ELECTRICAL CONDUCTORS								
4-6	15-23	up to 25	up to 7.5	3/8	10	Both	2500	175
4-6	15-23	26-100	7.5-30	1/2	13	Both	2500	175
5-10.5	19-40	up to 50	up to 15	1/2	13	Both	2500	175
5-10.5	19-40	51-100	15-30	5/8	16	Both	2500	175
5-10.5	19-40	100-300	30-90	5/8	16	Pressure	2500	175
				3/4	19	Return	2500	175
10-13	38-49	up to 50	up to 15	5/8	16	Both	2500	175
10-13	38-49	51-100	15-30	5/8	16	Pressure	2500	175
				3/4	19	Return	2500	175
10-13	38-49	100-200	30-60	3/4	19	Pressure	2500	175
				1	25.4	Return	2500	175
13-16	49-60	up to 25	up to 8	5/8	16	Pressure	2500	175
				3/4	19	Return	2500	175
13-16	49-60	26-100	8-30	3/4	19	Pressure	2500	175
				1	25.4	Return	2500	175

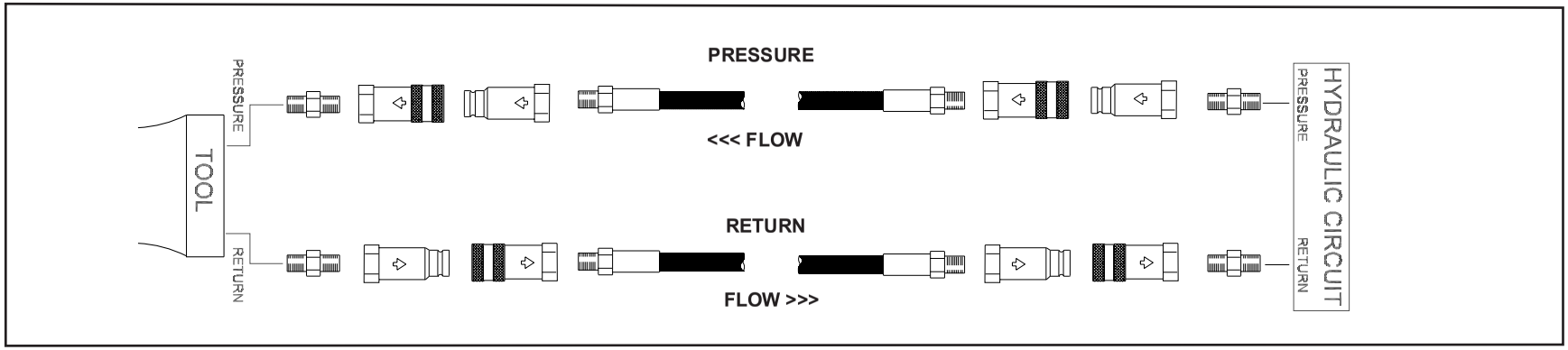


Figure 1. Typical Hose Connections

HTMA REQUIREMENTS

HYDRAULIC SYSTEM REQUIREMENTS	TOOL CATEGORY TYPE I	 TYPE II	TYPE III	TYPE RR
FLOW RATE	4–6 gpm (15–23 lpm)	7–9 gpm (26–34 lpm)	11–13 gpm (42–49 lpm)	9–10.5 gpm (34–40 lpm)
TOOL OPERATING PRESSURE (At the power supply outlet)	2000 psi (145–155 bar)	2000 psi (138 bar)	2000 psi (138 bar)	2000 psi (138 bar)
SYSTEM RELIEF VALVE SETTING (At the power supply outlet)	2100–2250 psi (145–155 bar)	2100–2250 psi (145–155 bar)	2100–2250 psi (145–155 bar)	2200–2300 psi (145–155 bar)
MAXIMUM BACK PRESSURE (At tool end of the return hose)	250 psi (17 bar)	250 psi (17 bar)	250 psi (17 bar)	250 psi (17 bar)
Measured at a max. fluid viscosity of: (At min. operating temperature)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)
TEMPERATURE Sufficient heat rejection capacity to limit max. fluid temperature to: (At max. expected ambient temperature)	140 °F (60 °C)	140 °F (60 °C)	140 °F (60 °C)	140 °F (60 °C)
Min. cooling capacity at a temperature difference of between ambient and fluid temps	3 hp (2.24 kW) 40 °F (22 °C)	5 hp (3.73 kW) 40 °F (22 °C)	7 hp (4.47 kW) 40 °F (22 °C)	6 hp (5.22 kW) 40 °F (22 °C)
NOTE: Do not operate the tool at oil temperatures above 140 °F (60 °C). Operation at higher temperatures can cause operator discomfort at the tool.				
FILTER Min. full-flow filtration Sized for flow of at least: (For cold temp. start-up and max. dirt-holding capacity)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)
HYDRAULIC FLUID	100–400 ssu*	100–400 ssu*	100–400 ssu*	100–400 ssu*
Petroleum based (Premium grade, anti-wear, non-conductive) VISCOSITY (At min. and max. operating temps)	(20–82 centistokes)			
NOTE: When choosing hydraulic fluid, the expected oil temperature extremes that will be experienced in service determine the most suitable temperature viscosity characteristics. Hydraulic fluids with a viscosity index over 140 will meet the requirements over a wide range of operating temperatures.				

*SSU = Saybolt Seconds Universal

The recommended hose size is .500 inch/12 mm I.D. up to 50 ft/15 m long and .625 inch/16 mm I.D. minimum up to 100 ft/30 m.

PRE-OPERATION PROCEDURES

ELECTRICAL GROUND

If required, ground the electrical load and alternator at the ground lug on the alternator frame, lower right (as viewed from the front).

CHECK POWER SOURCE

1. Using a calibrated flowmeter and pressure gauge, check that the hydraulic power source develops a flow of 7–9 gpm/26–34 lpm at 2000 psi/140 bar.
2. Make certain the hydraulic power source is equipped with a relief valve set to open at 2100 psi/145 bar maximum.

CONNECT HOSES

1. Wipe all hose couplers with a clean, lint-free cloth before making connections.
2. Connect the hoses from the hydraulic power source to the tool fittings or quick disconnects. It is a good practice to connect return hoses first and disconnect them last to minimize or avoid trapped pressure within the tool.
3. Observe flow indicators stamped on hose couplers to ensure that fluid flow is in the proper direction. The female coupler on the tool hose is the inlet coupler.
4. Move the hydraulic circuit control valve to the ON position to operate the tool.

NOTE:

If uncoupled hoses are left in the sun, pressure increase within the hoses may make them difficult to connect. When possible, connect the free ends of the hoses together.

OPERATION PROCEDURES

1. Observe all safety precautions.

⚠ CAUTION

Do not connect or otherwise apply power to an electrical load until the alternator has come up to speed.

2. Move the hydraulic circuit control to the “ON” position. As the alternator comes up to speed, a maximum electrical load of 3500 W, single-phase 60 Hz alternating current, at 120 volts becomes available.
3. Connect the electrical loads.

⚠ CAUTION

Do not exceed the alternator’s rated 3500 W capacity.

NOTE:

Output voltage is proportional to the RPM of the hydraulic motor.

FLASHING THE FIELD

This procedure establishes residual magnetism in the field windings, to provide start-up excitation and proper output voltage levels.

1. Stop the alternator.
2. Remove the receptacle panel.
3. Using a 12 volt automotive battery, touch the positive lead to the positive (+) diode set with the white or silver band, located on the rotor assembly. At the same time touch the negative lead to the negative (-) diode. Hold the leads against the diodes for 2-4 seconds.

NOTE:

Do not reverse the polarity of the leads. This may cause damage to the diodes or the rotor or both.

4. Replace the receptacle panel and start the alternator.

PREVENTATIVE MAINTENANCE SCHEDULE

IN DIRTY OR MOIST ENVIRONMENTS

90 DAY INTERVALS

If the unit is operated or stored in a dirty, moist, or salt moisture environment, the electrical contacts, rotor and stator should be inspected and cleaned every 90 days or more frequently as deemed necessary.

IN CLEAN, DRY ENVIRONMENTS

12 MONTH INTERVALS

If the unit is operated or stored in a clean and dry environment, the electrical contacts, rotor, and stator should be inspected and cleaned every 12 months or more frequently as deemed necessary.

No other preventative maintenance is required.

COLD WEATHER OPERATION

If the breaker is to be used during cold weather, preheat the hydraulic fluid at low engine speed. When using the normally recommended fluid, fluid temperature should be at or above 50 °F/10 °C (400 ssu/82 centistokes) before use.

Damage to the hydraulic system or breaker can result from use with fluid that is too viscous or thick.

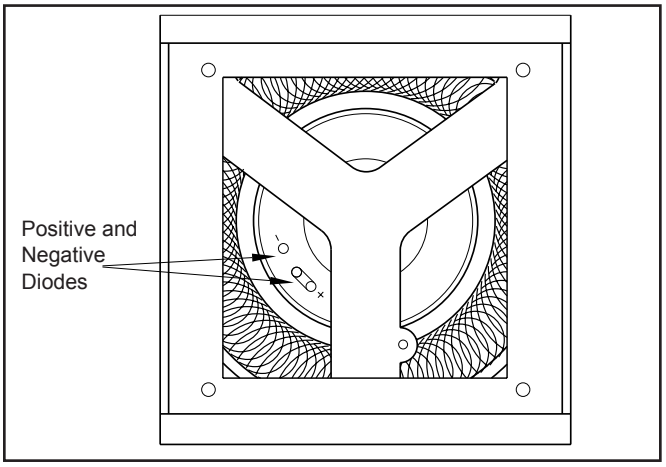


Figure 2. Diode Location

TOOL PROTECTION & CARE

NOTICE

In addition to the Safety Precautions found in this manual, observe the following for equipment protection and care.

- Make sure all couplers are wiped clean before connection.
- The hydraulic circuit control valve must be in the “OFF” position when coupling or uncoupling hydraulic tools. Failure to do so may result in damage to the quick couplers and cause overheating of the hydraulic system.
- Always store the tool in a clean dry space, safe from damage or pilferage.
- Make sure the circuit PRESSURE hose (with male quick disconnect) is connected to the “IN” port. The circuit RETURN hose (with female quick disconnect) is connected to the opposite port. Do not reverse circuit flow. This can cause damage to internal seals.
- Always replace hoses, couplings and other parts with replacement parts recommended by Stanley Hydraulic Tools. Supply hoses must have a minimum working pressure rating of 2500 psi/172 bar.
- Do not exceed the rated flow (see Specifications) in this manual for correct flow rate and model number. Rapid failure of the internal seals may result.
- Always keep critical tool markings, such as warning stickers and tags legible.
- Do not force a small breaker to do the job of a large breaker.
- Keep tool bit sharp for maximum breaker performance. Make sure that tool bits are not chipped or rounded on the striking end.
- Never operate a breaker without a tool bit or without holding it against the work surface. This puts excessive strain on the breaker foot.
- Tool repair should be performed by experienced personnel only.
- Make certain that the recommended relief valves are installed in the pressure side of the system.
- Do not use the tool for applications for which it was not intended.

TROUBLESHOOTING

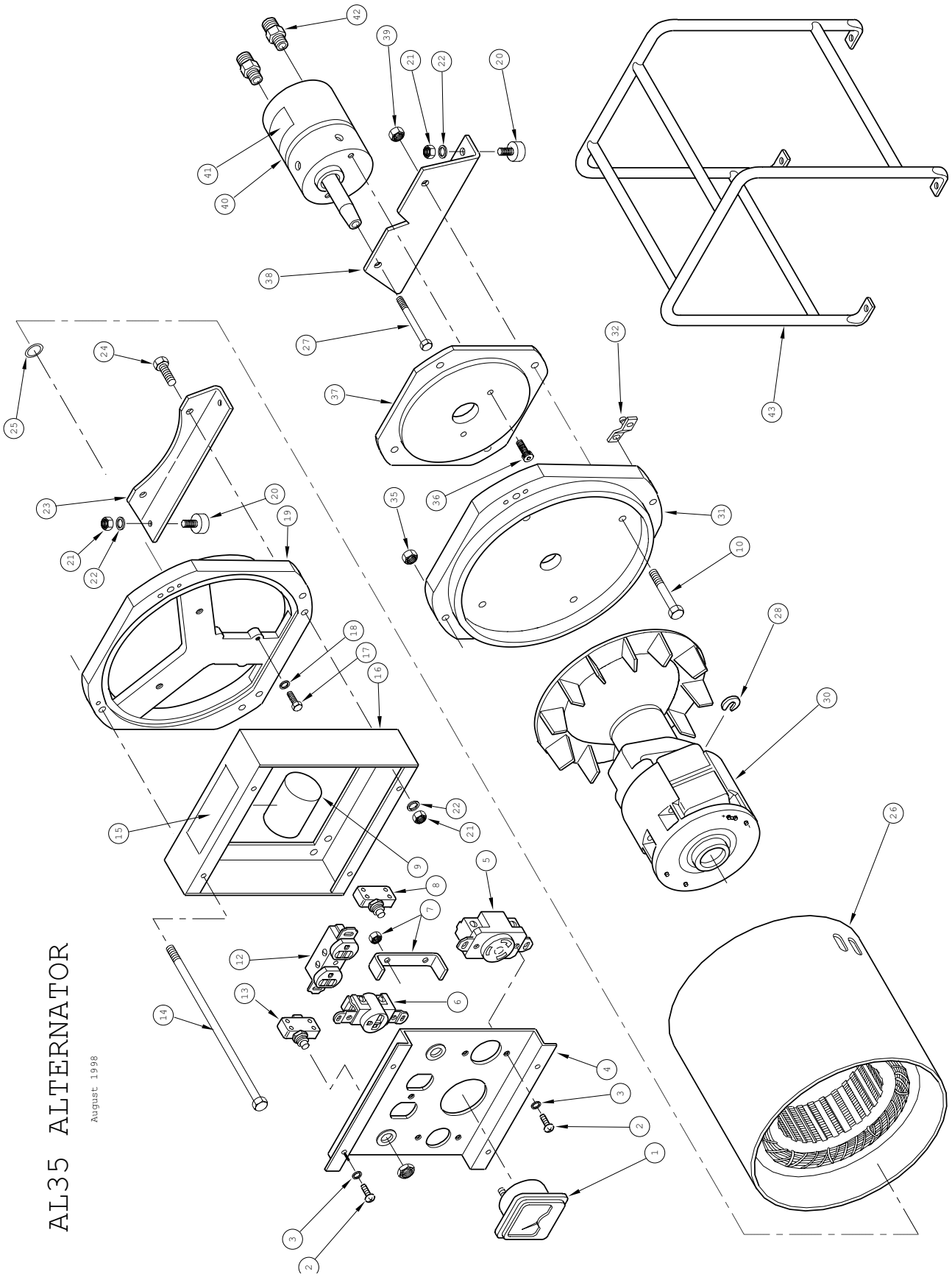
PROBLEM	CAUSE	REMEDY
Tool does not run.	Power unit not functioning.	Check power unit for power flow and pressure (7-9 gpm/26-34 lpm, 2000 psi/140 bar.
	Couplers or hoses blocked.	Remove restriction.
	Hyrevz motor failure.	Inspect and repair.
	Hydraulic lines not connected.	Connect lines.
No electrical output.	Open circuit breaker.	Reset circuit breaker.
	Faulty receptacle.	Replace receptacle.
	Loose/broken wires.	Locate and repair.
	Loss of residual magnetism.	Flash and Field. Refer to section in this manual.
	Short circuit in rotor filed or diodes.	Return to an authorized service center.
	Shorted AC or exciter stator windings.	Check with Ohmmeter. Continuity should exist between black/white and red/red wires. No continuity from black/white to red wire or any wire to ground. If a short is found, replace the stator.
Low output.	Hyrevz motor speed too slow.	Check for proper flow of 7-9 gpm/26-34 lpm.
	Unbalanced or excessive load.	Balance load between circuits, load should not exceed rated capacity.
	High backpressure.	Check for excessive backpressure, over 250 psi/17 bar.
	Couplers/hoses blocked.	Locate and remove blockage.
	Oil too hot/cold. Above 150°F/66°C or below 50°F/10°C.	Check power source for proper oil temperature. Bypass cooler to warm oil; or provide cooler to maintain proper temperature.
	Relief valve set too low.	Adjust relief valve to 2000 psi/145 bar.
	Motor worn.	Inspect; repair/replace.
Output too high.	Motor over-speeding.	Check power unit for proper flow. 7-9 gpm/26-34 lpm.
Alternator overheats.	Overloaded.	Reduce electrical load; load should not exceed rated capacity.
	Air intake plugged or covered.	Clear air intake.
	Windings covered with dirt.	Clean windings.

SPECIFICATIONS

The AL35 is a hydraulic motor powered electrical alternator, designed to provide power for lights, small power tools, and small appliances. It produces 3500 watts of power at a nominal 120/240 volts AC single phase at 60 Hz frequency. The unit requires hydraulic power delivered at 7–9 gallons per minute (gpm) with pressure up to 2000 pounds per square inch (psi).

Capacity	3500 W 120/240 V, 60 Hz at 8 gpm/30 lpm Input
Outlets	240 V/15 A, 120 V/20 A, 120 V/15 A Duplex
Pressure Range	2000 psi/140 bar
Flow Range	7–9 gpm/26–34 lpm
Optimum Flow	8 gpm/30 lpm
Porting	10 SAE O-ring
Connect Size and Type	1/2 NPT Pipe Fitting
Weight	70 lb/31.8 kg
Overall Length	19 inches/47.9 cm
Width	9 inches/22.7 cm
Height	10 inches/25.4 cm
Motor	Stanley Hyrevz P/N 21446

AL35 PARTS ILLUSTRATION

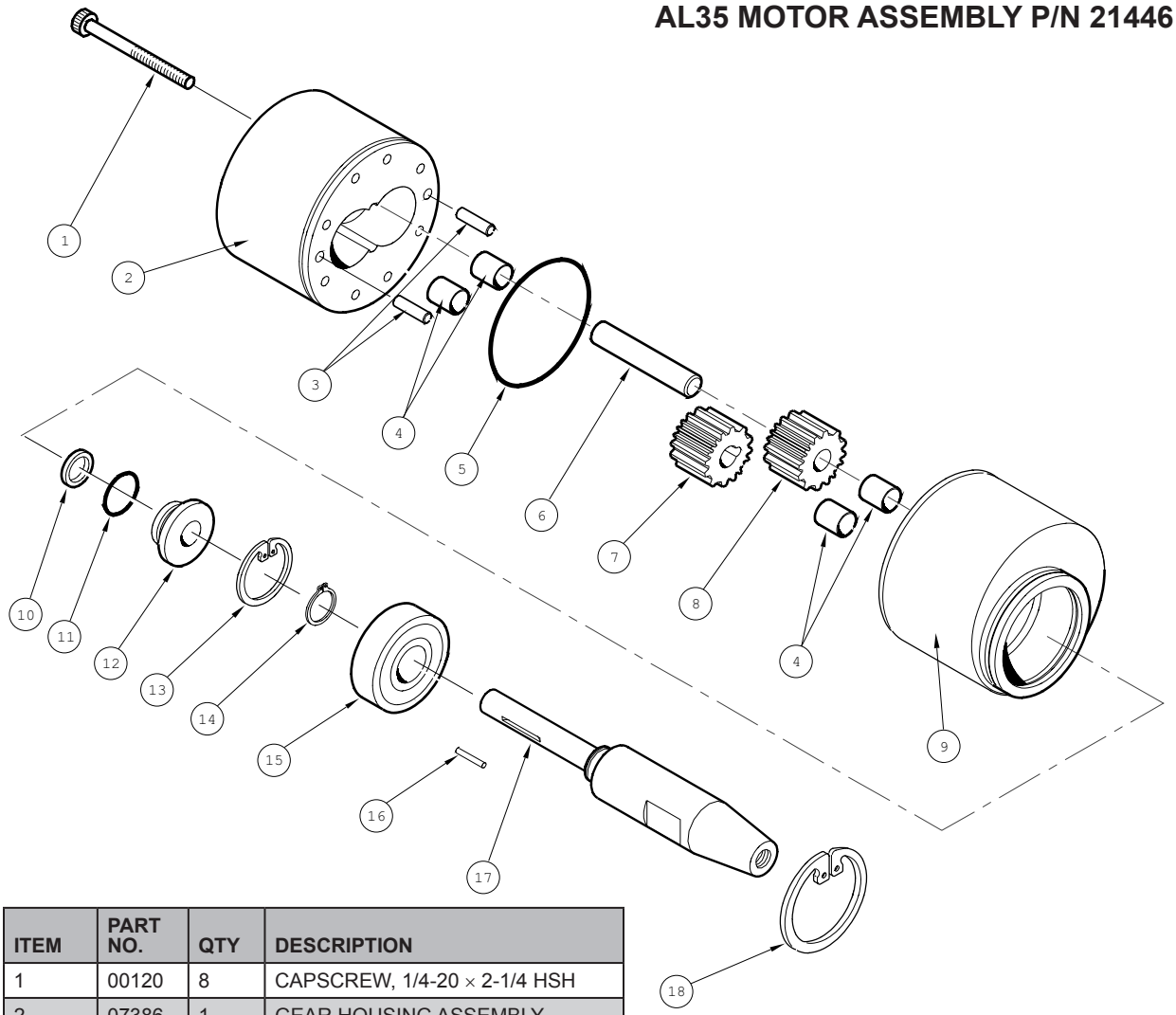


ITEM	PART NO.	QTY	DESCRIPTION
1	15100	1	VOLTMETER
2	COM*	4	PHILLIPS HEAD MACHINE SCREW
3	COM*	4	WASHER
4		1	RECEPTACLE PANEL
5	15101	1	RECEPTACLE, 30 A, 120 V
6	15103	1	RECEPTACLE, 15 A, 240 V
7	—	—	INCLUDED WITH ITEM 1
8	15106	1	CIRCUIT BREAKER, 30 A
9	35235	1	CAPACITOR
10	05734	4	CAPSCREW, 3/8-16 × 2 HEX HEAD
11	—	—	NO ITEM
12	15102	1	RECEPTACLE, 15 A, 120 V
13	15105	1	CIRCUIT BREAKER, 15 A
14	12692	4	STATOR BOLT 11" LONG
15	12735	1	NAME TAG
16	26604	1	RECEPTACLE BOX
17	COM*	1	CAPSCREW
18	COM*	1	LOCKWASHER
19	26607	1	OUTBOARD BEARING BRACKET ASSY
20	05351	4	FOOT
21	00429	6	HEX NUT 5/16-18
22	03031	6	WASHER 5/16
23	12628	1	MOUNTING BRACKET—SHORT
24	21315	2	CAPSCREW, 5/16-18 × 1-1/4
25	00171	1	O-RING
26	35237	1	STATOR ASSY
27	12690	1	CAPSCREW
28	12691	1	"C" WASHER
29	—	—	NO ITEM
30	35236	1	ROTOR ASSEMBLY
31	26606	1	ADAPTER, INBOARD ENGINE END
32	12694	1	GROUNDING LUG
33	—	—	NO ITEM
34	—	—	NO ITEM
35	20051	4	NUT, LOCKWASHER 1/4-20
36	02688	2	CAPSCREW 5/16-18 × 3/4
37	05325	1	MOTOR ADAPTOR
38	12622	1	MOUNTING BRACKET—TALL
39	04353	4	ESNA NUT
40	21446	1	HYREVZ MOTOR ASSEMBLY
41	03786	1	STICKER, GPM
42	00936	2	ADAPTOR

COM* indicates common parts available through local sources

AL35 MOTOR PARTS ILLUSTRATION

AL35 MOTOR ASSEMBLY P/N 21446

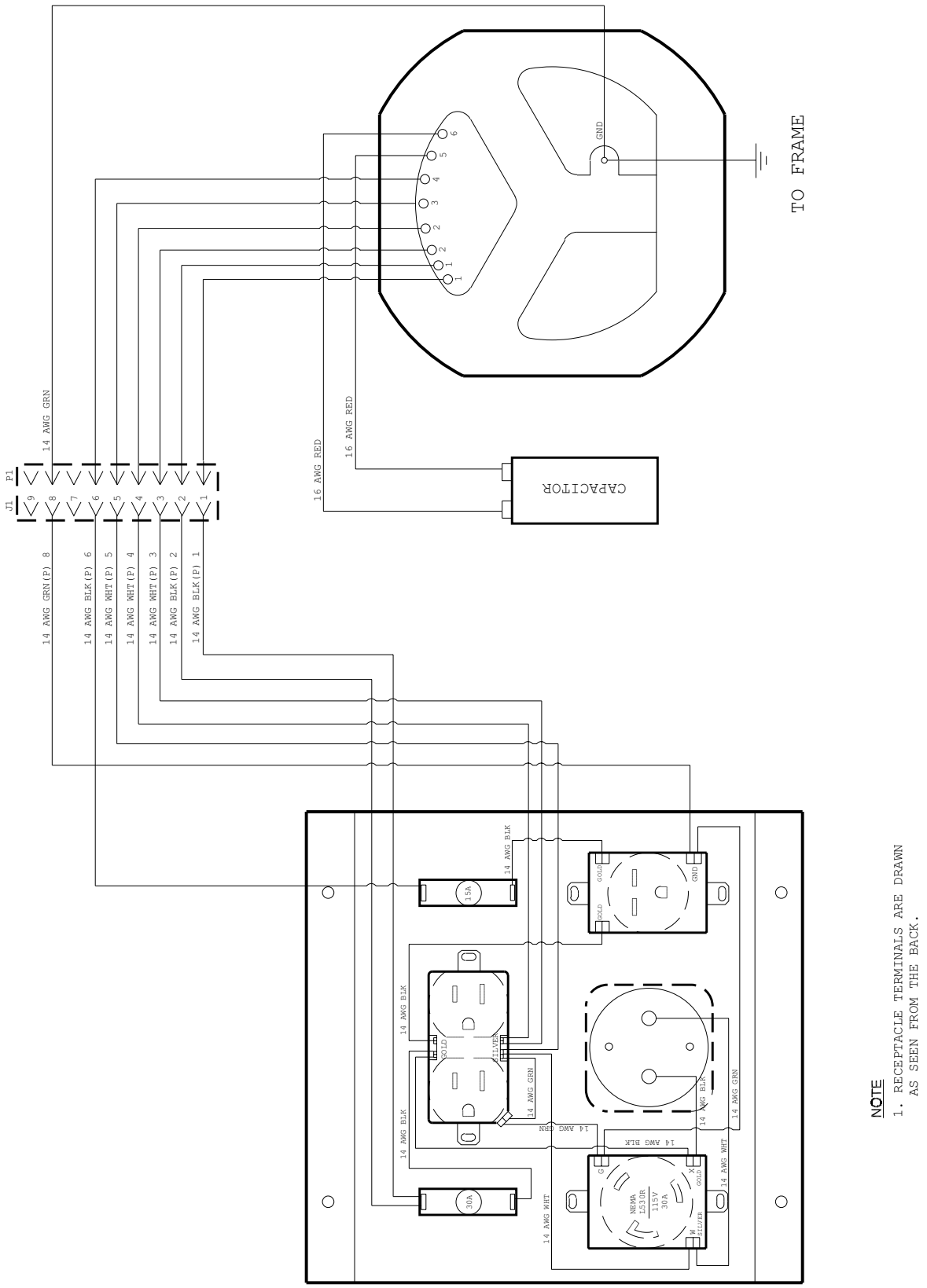


ITEM	PART NO.	QTY	DESCRIPTION
1	00120	8	CAPSCREW, 1/4-20 × 2-1/4 HSH
2	07386	1	GEAR HOUSING ASSEMBLY
3	00713	2	DOWEL PIN
4	06316	4	BUSHING
5	00178	1	O-RING *
6	06854	1	IDLER SHAFT
7	06853	1	DRIVE GEAR
8	06855	1	IDLER GEAR
9	21432		BEARING HOUSING ASSEMBLY
10	00669		QUAD RING *
11	00171		O-RING *
12	19884		SEAL GLAND
13	00170		RETAINING RING
14	00708		RETAINING RING
15	00148		BEARING
16	06881		NEEDLE ROLLER
17	06876		DRIVE SHAFT
18	00166		RETAINING RING

* Indicates part of Seal Kit 07388

AL35 WIRING DIAGRAM

Use clean solvent In well ventilated areas. Avoid prolonged Inhalation of vapors and prolonged or repeated contact with skin. Keep away from heat or open flame.



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IMPORTANT

To fill out a Product Warranty Recording form, and for information on your warranty, visit Stanleyhydraulic.com and select the Warranty tab.
(**NOTE:** The warranty recording form must be submitted to validate the warranty).